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PLEASE AMEND THE CLAIMS AS FOLLOWS:

Claim 1. (Currently amended)A method of forming a semiconductor alloy layer featuring the use of only one underlying graded semiconductor alloy layer, comprising the steps of:

providing a semiconductor substrate;

without the use of a seed layer growing a graded, first semiconductor alloy layer directly on said semiconductor substrate, wherein the content of a component of said graded, first semiconductor alloy layer is decreased as the growth of said graded, first semiconductor alloy layer progresses, wherein said component in said graded, first semiconductor alloy layer, for a silicon - germanium alloy layer, is germanium;

growing a non- graded, second semiconductor alloy layer on said graded, first semiconductor alloy layer, wherein the content of said component in said second semiconductor alloy layer is uniform, and wherein said second semiconductor alloy layer is in a strain relaxed form, and wherein said component in said graded, second semiconductor alloy layer, for a silicon - germanium alloy layer, is germanium; and

forming a semiconductor layer on said relaxed second semiconductor alloy layer, wherein said semiconductor layer is comprised with tensile strain.

Claim 2. (Original) The method of claim 1, wherein said semiconductor substrate is a silicon semiconductor substrate, or a GaAs substrate.

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Claim 3. (Original) The method of claim 1, wherein said graded, first semiconductor alloy layer is a silicon - germanium layer or an InGaAs layer.

Claim 4. (Original) The method of claim 1, wherein said graded, first semiconductor alloy layer is obtained via molecular beam epitaxy (MBE) or via low pressure chemical vapor deposition (LPCVD) procedures.

Claim 5. (Cancelled)

Claim 6. (Original) The method of claim 1, wherein said graded, first semiconductor alloy layer is grown to a thickness between about 300 to 1000 Angstroms.

Claim 7. (Previously presented) The method of claim 1, wherein said graded, first semiconductor alloy layer is comprised of a group of semiconductor alloy layer portions denoted as $Si_{(1-x)}Ge_x$, wherein x is the content in weight percent of said component, with the maximum amount located at the semiconductor substrate surface and with decreasing weight percent of said component and being lowest at the top surface of said graded Si-Ge semiconductor alloy layer

Claim 8. (Original) The method of claim 1, wherein the content in weight percent of said component in said graded, first semiconductor alloy layer, ranges between about 50 to 0 %.

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Claim 9. (Original) The method of claim 1, wherein said second semiconductor alloy layer is a silicon -germanium layer or a InGaAs layer.

Claim 10. (Original) The method of f claim 1, wherein said second semiconductor alloy layer is obtained via molecular beam epitaxy (MBE) or via low pressure chemical vapor deposition (LPCVD) procedures.

Claim 11. (Original) The method of claim 1, wherein said second semiconductor alloy layer is grown to a thickness between about 2,000 to 10,000 Angstroms.

Claim 12. (Original) The method of claim 1, wherein said second semiconductor alloy layer is comprised with a weight percent of said component, between about 20 to 100 %.

Claim 13. (Original) The method of claim 1, wherein said semiconductor layer is a silicon layer for the silicon - germanium example, or a InP layer for the InGaAs example.

Claim 14. (Original) The method of claim 1, wherein said semiconductor layer is obtained via MBE or via LPCVD procedures at a thickness between about 100 to 200 Angstroms.

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Claim 15. (Previously presented) A method of forming a strain relaxed silicon -germanium layer featuring the use of only a single, graded silicon - germanium layer directly on an underlying semiconductor substrate, comprising the steps of:

providing a semiconductor substrate;

growing said graded silicon - germanium layer directly on said semiconductor substrate without the use of an underlying seed layer, wherein the content of a germanium component in said graded silicon germanium layer is decreased as the growth of said graded, first silicon - germanium layer progresses;

growing a relaxed silicon - germanium layer on said graded silicon - germanium layer, in situ in same apparatus used for growth of said graded silicon - germanium layer, and wherein the content of germanium component in said relaxed silicon - germanium layer is uniform; and

forming a silicon layer on said relaxed silicon - germanium layer, in situ in said apparatus, and wherein said silicon layer is comprised with tensile strain.

Claim 16. (Original) The method of claim 15, wherein said semiconductor substrate is a silicon semiconductor substrate.

Claim 17. (Original) The method of claim 15, wherein said graded silicon - germanium layer is obtained via molecular beam epitaxy (MBE) or via low pressure chemical vapor deposition (LPCVD) procedures, to a thickness between about 300 to 1000 Angstroms.

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Claim 18. (Original) The method of claim 15, wherein said graded silicon - germanium layer is grown using silane or disilane as a silicon source, and using germane as a germanium source.

Claim 19. (Previously presented) The method of claim 15, wherein said graded silicon - germanium is comprised of a group of silicon - germanium portions denoted as $Si_{(1-x)}Ge_x$, wherein x is the weight percent of said germanium component, with the maximum amount located at the semiconductor substrate surface and with decreasing weight percent of said germanium component and being lowest at the top surface of said graded Si-Ge semiconductor alloy layer.

Claim 20. (Original) The method of claim 15, wherein the weight percent of germanium in said graded silicon - germanium layer ranges between about 50 to 0 %.

Claim 21. (Original) The method of claim 15, wherein said relaxed silicon - germanium layer is obtained via molecular beam epitaxy (MBE) or via low pressure chemical vapor deposition (LPCVD) procedures at a thickness between about 2,000 to 10,000 Angstroms.

Claim 22. (Original) The method of claim 15, wherein said relaxed silicon - germanium layer is grown using silane or disilane as a silicon source, and using germane as a germanium source.

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Claim 23. (Original) The method of claim 15, wherein said relaxed silicon - germanium layer is comprised with a germanium weight percent between about 20 to 100 %.

Claim 24. (Original) The method of claim 15, wherein said silicon layer is obtained via MBE or via LPCVD procedures at a thickness between about 100 to 200 Angstroms.

Claim 25. (Original) The method of claim 15, wherein said silicon layer is grown using silane or disilane as a source.